

TURBO-ELECTRIC  
**REPORT ON STEAM TURBINE MACHINERY.** No. 102881

Received at London Office 15 JUL 1945  
 Date of writing Report 17.5.45 Port of NEWCASTLE-ON-TYNE  
 Date, First Survey (1944) Mar. 2<sup>nd</sup> Last Survey May 9<sup>th</sup> 1945  
 No. in Survey held at NEWCASTLE-ON-TYNE  
 Reg. Book. S/S "OLNA"  
 on the TANKER Tons } Gross 1266  
 Net 773  
 Built at WALSSEND By whom built SWAN HUNTER & WIGHAM RICHARDSON Yard No. 1689 When built 1945  
 Engines made at RUGBY By whom made B.T.H. Co. Ltd. Engine No. SM.WR1766 When made 1945  
 Boilers made at GLASGOW (RENFREW) By whom made BABCOCK & WILCOX LTD. 6/1680 Boiler No. 1746 When made 1945  
 Shaft Horse Power at Full Power 11000 Owners THE ADMIRALTY Port belonging to 1766 1945  
 Nom. Horse Power as per Rule 2340 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES  
 Trade for which Vessel is intended OCEAN GOING

**STEAM TURBINE ENGINES, &c.**—Description of Engines TURBO-ELECTRIC (SEE ALSO LON RPT N<sup>o</sup> 112296 & 112320)

No. of Turbines 1 Ahead ✓ Direct coupled, single reduction geared } to ✓ propelling shafts. No. of primary pinions to each set of reduction gearing 1  
 Astern ✓ double red. ction geared }  
 Direct coupled to { Alternating Current Generator ✓ phase 3 periods per second } rated ✓ Kilowatts 11000 Volts at 11000 revolutions per minute;  
 supplying power for driving ✓ Propelling Motors, Type Direct Current Generator  
 rated ✓ Kilowatts 11000 Volts at 11000 revolutions per minute. Direct coupled, single or double reduction geared to ✓ propelling shafts.

TURBINE STAGE	H.P.			I.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1st EXPANSION												
2nd												
3rd												
4th												
5th												
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												

Shaft Horse Power at each turbine { H.P. ✓ 1st reduction wheel ✓  
 I.P. ✓ main shaft ✓  
 L.P. ✓  
 Propeller Shaft diameter at journals { H.P. ✓ Pitch Circle Diameter { 1st pinion ✓ 1st reduction wheel ✓ Width of Face { 1st reduction wheel ✓  
 I.P. ✓ 2nd pinion ✓ main wheel ✓ main wheel ✓  
 L.P. ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion ✓ 1st reduction wheel ✓  
 2nd pinion ✓ main wheel ✓  
 Flexible Pinion Shafts, diameter { 1st ✓ Pinion Shafts, diameter at bearings External ✓ 1st ✓ 2nd ✓ diameter at bottom of pinion teeth { 1st ✓  
 2nd ✓ Internal ✓ Generator Shaft, diameter at bearings ✓  
 Wheel Shafts, diameter at bearings { 1st ✓ diameter at wheel shroud, { 1st ✓ Propelling Motor Shaft, diameter at bearings ✓  
 main ✓ main ✓

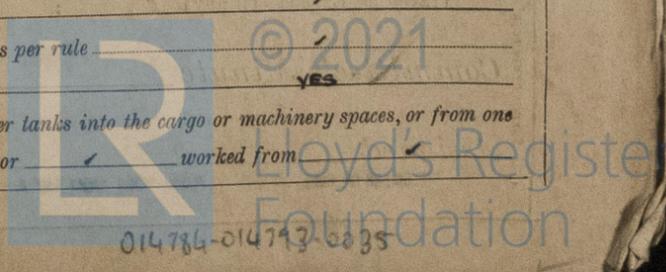
Intermediate Shafts, diameter as per rule 18.96 Thrust Shaft, diameter at collars as per rule 19.91  
 as fitted 19 1/8 as fitted 20 3/8  
 Tube Shaft, diameter as per rule 20.627 Screw Shaft, diameter as per rule 20 3/4 Is the ✓ shaft fitted with a continuous liner { ✓  
 as fitted ✓ as fitted ✓ Is the after end of the liner made watertight in the propeller boss ✓  
 Bronze Liners, thickness in way of bushes as per rule 31/32 Thickness between bushes as per rule 70 Is the after end of the liner made watertight in the propeller boss ✓  
 as fitted ✓ as fitted 15/16 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓  
 If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive TIGHT FIT  
 If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube ✓  
 Shaft NO If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 8'-8"

Propeller, diameter 20'-0" Pitch 15.02 MEAN No. of Blades 4 State whether Moveable NO Total Developed Surface 195 square feet.  
 of Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine ✓ Can the H.P. or I.P. Turbine exhaust direct to the Condenser ✓  
 No. of Turbines fitted with astern wheels ✓ Feed Pumps { No. and size MAIN BOILERS 2 MAIN & LAUY DONKEY BOILER 2 WEIRS  
 How driven STEAM TURBO STEAM

Pumps connected to the Main Bilge Line { No. and size 2-5" DRYSDALE 80/H 1- BALAST 110/H  
 How driven ELECTRIC STEAM  
 Ballast Pumps, No. and size 1- HAYWARD TYLER 12" x 8 1/2" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size 2- 160 galls/min  
 Are two independent means arranged for circulating water through the Oil Cooler ✓ YES Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room 2-4" 1-4" WELL 1-4" AFT WELL  
 In Holds, etc. FORWARD PUMP ROOM 1-2 1/2" FOR COFFERDAM 1-4" AFT COFFERDAM 1-4"

Main Water Circulating Pump Direct Suctions, No. and size 2-14" DIA Independent Power Pump Direct Suctions to the Engine Room  
 Bilges, No. and size 1-6" DIA 2-5" DIA Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓ YES  
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges ✓ YES  
 Are all Sea Connections fitted direct on the skin of the ship ✓ YES Are they fitted with Valves or Cocks BOTH  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates ✓ YES Are the Overboard Discharges above or below the deep water line ✓ YES  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ YES Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓ YES  
 What pipes pass through the bunkers NONE How are they protected ✓  
 What pipes pass through the deep tanks ✓ Have they been tested as per rule ✓ YES

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓ YES  
 Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another ✓ YES Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓



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